# AVENUES OF INFLUENCE: CROSS-CULTURAL IMPLICATIONS

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The current research examined well-established cognitive biases within the context of a multinational, multicultural domain. A feasibility study was conducted at the NATO School Oberammergau (NSO) to determine if cross-cultural differences could be measured with the intent to provide a basic understanding of mechanisms that drive specific influence tactics and determine if those mechanisms were differentially effective across cultures. A 2 x 2 factorial experiment was designed that would examine the effects of message tone (Positive, Negative) and social influence (High Social Proof, Low Social Proof) on information retrieval behavior across cultures. The project was canceled before experiment execution. Pilot data is reported.

**15. SUBJECT TERMS**

Cognitive bias, behavioral influence, social influence, social proof, message tone, message affect, avenue of influence, socio-cultural, cross-cultural, culture

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## 1.0.    SUMMARY

The support objective of the Avenues of Influence: Cross-cultural Implications project was to inform on information-based methods to understand and influence targets' attitudes and behaviors. The problem space encompassed aspects of Air Force intelligence analysis (e.g., Behavioral Influences Analysis), operational planning and targeting (e.g., Joint Targeting Cycle), Influence Operations, Military Deception (MILDEC), and Military Information Support Operations (MISO).  Arming the Department of Defense (DoD) Intelligence, Surveillance, and Reconnaissance (ISR) community with knowledge of mechanisms that explain why some factors can be influentially effective differentially across cultures will further enable their capability to understand and induce desired short- and long-term behavior change at the individual, group, and organizational level, thereby allowing analysts and operators to manage information, within the confines of military law, to affect attitude and behavioral changes at different entry points on social and organizational networks.

## 2.0. INTRODUCTION

As a Joint DoD Center of Excellence for human performance sustainment and readiness, optimization, and effectiveness research, the Air Force Materiel Command (AFMC) 711th Human Performance Wing (HPW) supports the Intelligence Community (IC) efforts to understand, forecast, and influence actor behavior. The growing importance of behavioral influences analysis as a key component of intelligence products is evidenced at every level of engagement: strategic, operational, and tactical. To help IC organizations better understand socio-contextualized social influences on target (individual or group) behavior, 711HPW/RH initiated a basic research study to measure cross-cultural differences of information retrieval behavior.

## 2.1. Background

The Avenues of Influence: Cross-Cultural Implications project was a component effort within the scope of the larger AFMC 711HPW/RH Trust Grand Challenge. One of the the Trust Grand Challenges was defined as Precision Influence which could be characterized as a theoretically-driven model for behavioral influence. It provided the over-arching framework for basic and applied research in the social sciences for (1) developing an understanding of factors that promote trust, (2) identifying and understanding systemic vulnerabilities (e.g., cognitive, organizational, trust-based, group-based, etc.), (3) examining cross-cultural implications of trust factors, and (4) developing and evaluating cross-thrust measures of effectiveness while taking context into account. The exploration of cross-cultural implications for social influence had been identified as a critical step toward the larger challenge of precision influence.

## 2.2. Short- and Long-Rerm Research Objectives

The conceptual foundation for this research was the premise that deviations in judgment (e.g., cognitive biases), organizational constraints, group process and procedure, situational context, national culture and other factors interact in complex ways to define individual, group and organizational attributes that could create avenues of influence for behavioral effects targeting. From a strategic perspective, the overarching goals were to identify and understand the mechanisms that drive effective influence strategies and tactics and determine if they were differentially effective across cultures. Our objectives were to investigate and determine:

- Are the behavioral influence effects of the number of similar-others shown to support the idea, attitude, or behavior to be influenced culturally-specific?
- Are the behavioral influence effects of the number of similar-others shown to support the idea, attitude, or behavior to be influenced moderated by message tone?
- Is the impact of emotional valence (i.e., positive or negative emotional appeal within the message) on behavioral influence moderated by the number of similar-others shown to support the idea, attitude, or behavior to be influenced (i.e., social proof bias)? Does this impact, if it exists, vary across cultures?

Our objectives for the program as it matured were to:

- Identify cognitive biases that may create vulnerabilities subject to persuasive appeals and determine how these biases manifest across cultures and organizations

- Determine the degree to which different biases, if any, are dominant in shaping behavior
- Explore causal mechanisms that explain why these factors may influence attitude and/or behavioral change
- Investigate how influence strategies and tactics can be applied to selected organizational and national cultural biases to create attitude and/or behavioral change
- Determine measures of effectiveness for assessing attitude and/or behavioral change resulting from the application of influence strategies and tactics to vulnerabilities rooted in organizational and national cultural biases

## 2.3. Approach

Our approach was to conduct cross-cultural basic research on accessible military populations, where findings could be generalized to the global environment. As a subject matter expert in the domain of cultural adaptability research, Dr. Sutton became become a Senior Visiting Research Fellow at the NATO School Oberammergau (NSO) located in Oberammergau, Germany in 2009. In February 2010, Dr. Sutton briefed the Avenues of Influence: Cross-Cultural Implications research project to the NATO School Commandant, the NATO School Dean of Academics, and the Director of the NSO Research Department. The expectation of all parties was to establish a long-term partnership in the conduct of research on human behavior.

The Avenues of Influence: Cross-Cultural Implications effort was planned as a long-term program of basic research supported organizationally by the 711HPW/RH Chief Scientist, and launched via the platforms of the AFOSR International Office Window on the World and AFOSR Life Sciences Lab Task programs.

This in-house effort leveraged multiple resources:

- Established professional relationships within the international military research community such as those established in the conduct of basic research for the NATO Allied Command Transformation Concept Development and Experimentation program on Leader and Team Adaptability in Multinational Coalitions (Dr. Sutton, Lead Experimenter);
- Resources and products of NATO Research and Technology Organization (RTO) activities such as from Research Task Groups (e.g., Human Factors and Medicine Panel (HFM) 163/RTG; Improving the Organizational Effectiveness of Coalition Operations), Research Symposiums (e.g., HFM 142/RSY; Cultural Adaptability), Technical Courses (e.g., HFM 183/TC; Measuring the Effects of Influence Operations on Attitudes and Behaviors) and RTO Specialists' Meetings (e.g., HFM 201/RSM; Social Media: Risks and Opportunities in Military Applications);
- A computer-based training (CBT) tool, GlobeSmart® Commander (Sutton & Gundling, 2005), developed under an Army Small Business Innovative Research program to train cultural adaptability to operational level military personnel;
- Technology and facilities resident at Wright State University (e.g., Culture and Cognition Laboratory); and

- The Decision Vulnerability Models (DVM) 6.2 program, a contracted effort designed to analyze psychological vulnerabilities resulting from organizational parameters.
- We collaborated with the NATO School Research Department in the review of cross-cultural literature, focusing on the domains of trust and social influence.

### 3.0.    METHOD

As mentioned, this three-year research project was cancelled after two-years due to a realignment of RHX division objectives.  The final experiment was scheduled for execution in the third year of the project and, therefore, not completed.  However, we believe it will be helpful to future NSO collaborations for researchers to have a general understanding of the proposed research.

### 3.1.    Data Collection

Generally speaking, participants from the four cultural groups were to be given a persuasive appeal with pre- and post-manipulation measures of affect and post-manipulation measures of attitude (Forgas, 1995).  The targeted behavioral act (i.e., primary dependent variable) was for participants to voluntarily complete one module of the GlobeSmart® Commander CBT (see Sutton & Gundling, 2005).  We pilot tested the seven training modules in the CBT to determine which module was of most interest to the participant population.  Content of the research stimuli was developed from Drs. Sutton and Stokes research (Sutton, *et al.*, 2008; Warren & Sutton, 2008; Stokes *et al*, 2010) and is based, in part, on experimental studies on manipulation of different leadership styles (Lyons & Schneider, 2009).  The stimuli delivery mechanism was created by Dr. Lyons at the AFRL Culture and Cognition Laboratory.

Though the study was cancelled before the planned experiment could be conducted, some pilot data was collected for the purpose of: identifying the cultural adaptability training module in the GlobeSmart® Commander CBT tool with the greatest perceived relevance to multinational military teamwork in our target population.

### 3.1.1.    Participants

There were 254 participants of pilot testing comprised primarily of military commissioned and non-commissioned officers attending operational-level courses at NSO. They represented 27 nations: Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Turkey, United States, South Africa, Bosnia-Herzegovina, Slovenia, Norway, Switzerland, Austria, Poland, Belarus, United Kingdom., Slovakia, Croatia, Hungary, Serbia, and Czech Republic.

### 3.1.2.    Research Personnel

Ms. Liliana Serban, Director of Research Department at NSO, was instrumental in establishing the first ever Institutional Review Board (with Federal Wide Assurance) at the NATO School and was the principal actor in research interaction with the Command and Academic Staff as well as the participant population.  She maintained Citi Human Research certification for herself and several research associates in her organization.

### 3.1.3.    Proposed Procedure

Three manipulations were planned to be executed in a 2 (Communication Modality: Video, Text) x 2 (Message Tone: Positive, Negative) x 2 (Social Influence: high social proof, low social proof) experimental design (see Figure 1).

The first independent variable manipulation, communication modality, was to involve different media types to explore if media type influences context-specific behavioral action across cultures.  After careful consideration of the logistics at NSO, it was determined that it was not feasible, at the time, to incorporate communication modality into the final experimental design.

In the Video condition, participants were to watch and listen to a message delivered as a video played on a computer screen. The video would be a male of indeterminate nationality, which was to be validated with pilot testing, delivering information on multicultural teamwork followed by an appeal for the participant to voluntarily show up on a different day to a specific location for additional training. Subjective measures of readability, understandability, and view-ability, etc. would also be validated with pilot testing. In the Text condition, the information and appeal would appear as text on a computer screen. In presentation of the stimuli, six influence techniques were planned: rational persuasion, rational/apprising persuasion, collaboration, legitimizing, ingratiation, and consultation (see Fu et al., 2001, and Yukl et al., 2008, for a discussion of specific influence techniques).

The second independent variable manipulation, message affect, would involve stimuli with an emotional valence to examine whether or not these stimuli differentially predict motivation (i.e., intent) to seek additional information or the act of information retrieval itself. The original design called for message tone to be controlled for by inclusion of emoticons and punctuation in the text condition and with facial expressions, hand gestures, eye contact and vocal variability in the video condition (Doherty, 1998; Bavelas et al., 1987). Ability of the message presented to invoke a positive or negative affect in participants was pilot tested.

The third independent variable manipulation, social influence social proof bias, would involve the inclusion of verbiage supporting high or low relevant social support for the behavioral appeal in the stimulus material. Included in the message verbiage would be the following statement, "This training (i.e., information retrieval behavior) is voluntary and will take some of your time outside of normal classroom hours; however, increased team effectiveness and mission success through greater cultural awareness has already been reported by approximately X percent of NATO officers that have viewed the material." Percentages to include in the stimulus material for high and low social proof were pilot tested.
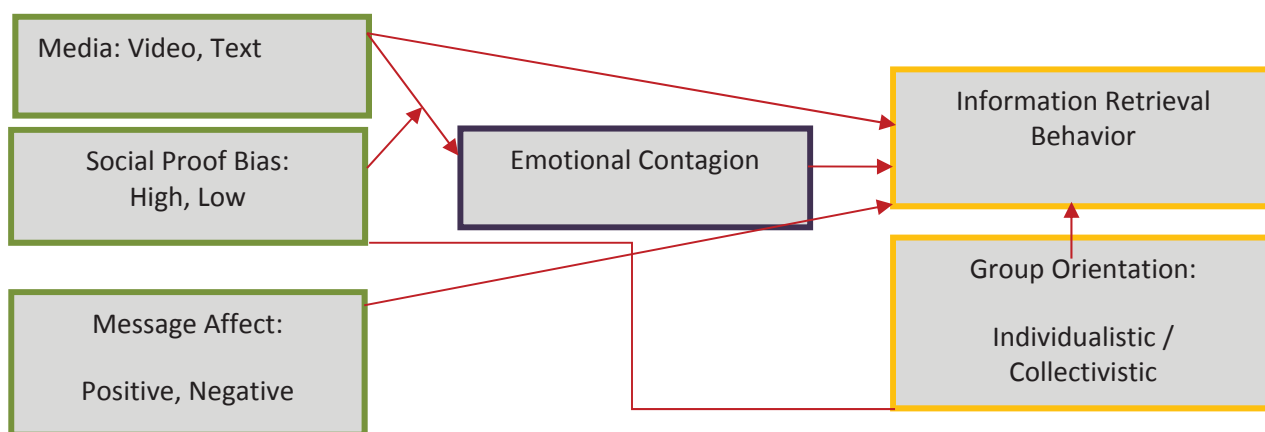


**Figure 1: Proposed Behavioral Model**

## 3.2.    Social Influence

Social influence is a burgeoning area of research, though one with a paucity of empirical laboratory studies to guide theory-building for cross-cultural research. Research investigating

moderators of persuasive strategies and tactics across cultures is scarce. In an exhaustive review of the literature in the domain of social influence, Smith & Bond (1994) found that the preponderance of social psychological research in this domain was completed by North Americans studying North Americans and the preponderance of that research was conducted in a business environment.

However, there is some research to suggest that cultural differences in social influence may exist both in terms of the use of and the effectiveness of social influence tactics. In fact, the management literature has identified that Asian managers use different influence tactics relative to American managers (Fu & Yukl, 2000). American managers tend to use more rational persuasion and exchange tactics, whereas Chinese managers tend to use greater appeals to authority and coalition tactics.

Other research has explored the differential effectiveness of various influence tactics in different cultures. Contemporary researchers discuss several pathways to social influence, including cognitive biases. Social proof is a bias where one uses the actions of others to help shape one's own attitude and behavior (Cialdini, 2001). For example, individuals may be more likely to try a new product if they knew a large number of people have had successful experiences with the product, as compared to a situation where few people have tried the new product.

Social proof can be used to create behavioral cascades, particularly when the originator of the behavior is of a high status. Such patterns have been observed in the stock market (Rao, Greve, & Davis, 2001). Cialdini and colleagues (1999) assessed the impact of the social influence principals of commitment/consistency and social proof on participants' decisions in the United States and Poland, finding that the commitment/consistency bias had greater influential impact in the U.S. group, whereas the social proof bias had more influential impact in the Polish sample. Han & Savitt (1994) found that advertisements featuring individualist benefits (e.g., personal success) were more persuasive to Americans, representative of individualistic societies, than persuasive appeals featuring collectivistic benefits (e.g., family). They found the reverse to be true when examining Koreans, a nation representative of collectivistic societies.

Finally, a meta-analysis of conformity studies found evidence for cultural differences in how individuals use information about others to guide their own decisions with collectivistic cultures showing a stronger tendency to be more responsive to information about others (Bond & Smith, 1996). Research in this area has predominantly focused on comparisons between individualistic and collectivistic cultures. Furthermore, given the differential emphasis toward group factors in either individualistic or collectivistic cultures, social influence tactics involving group social elements may be a good starting point for exploring cross-cultural differences.

More recently, researchers have begun to theorize how these same social influence tactics can be exploited through modern technology (Weinschenk, 2009). For example, social networking tools such as Facebook and Twitter, are pervasive and highly influential mechanisms to spawn behavior, yet it is not been made clear why these tools convey such power. In other words, what are the underlying causal mechanisms that explain why these factors may influence attitude and/or behavioral change? Despite decades of research on persuasion, social networking tools and, more broadly, the Internet, represent a wealth of capability that while currently exploited, are poorly understood.

Social proof is one possible mechanism to help understand the pervasive influence of social networking tools. Using the internet, one can easily form social clusters around a topic or event, and these social clusters may be more or less influential for a particular culture. One can blog with a group of people including individuals across the globe, thus spanning geographic and temporal boundaries. Using Twitter or Facebook one can track the status and behaviors of a very large number of people, thus further connecting millions of people with click of a mouse.

Social proof can also be used on websites for marketing as advertisers attest to the behavior of the masses in schemes to try and allure the penchant of new buyers (Weinschenk, 2009). Terrorist recruitment may also be influenced by social media. Research suggests that terrorists begin with feelings of anger, alienation, a desire to take action, and seek to identify with the idealistic causes, and this opposes the stereotypical view of suicide bombers as pathological (DeAngelis, 2009). Social media tools that allow groups of people to share ideas and fill identity gaps may represent a crucial element of the terroristic infrastructure, thus necessitating further investigation to drivers of their influence as media.

Another possible mechanism to explain the impact of social networking tools is emotional content. Emotions may operate directly via the content and delivery of messages (Bator & Cialdini, 2000) as well as indirectly via processes such as emotional contagion. Emotional contagion represents the process through which non-verbal behaviors and gestures may be reciprocated by those who observe them (Hatfield, Cacioppo, & Rapson, 1994). It may be that emotional contagion exacerbates the impact of social proof, such that high social proof scenarios are more likely to generate an emotional contagion effect.

Social networking tools come in a variety of forms and include multiple capabilities such as video sharing, blogging, data tagging, etc. If the emotional contagion hypothesis is supported, then media that transmits emotional content may be more influential than media that lacks emotional content. Past research has found that messages that generate emotional arousal in a positive, approach-oriented fashion are more effective in motivating behavior relative to messages that threaten and overwhelm individuals (Schneider, Rivers, & Lyons, 2009). Further, research has shown that emotions influence the degree to which individuals trust others (Stokes et al., 2010). Thus, the delivery of a message is just as important as its content, and this delivery can come in a variety of forms.

### 3.3.    Culture Groups

The goal of this large-scale, multicultural behavioral experiment was to investigate whether and how certain mechanisms influence behavioral intent and/or action and determine if these mechanisms are differentially effective across cultures. Our experimental design necessitated an *a priori* definition of culture groups, which begged the question, "what is culture?"

The definitions for culture are many and varied. For example, culture can be defined in terms of a system (e.g., combination of ideas, systems, etc.), or in terms of group membership, power, ideology, or artifacts. It can be defined as a function or a process, providing people with a shared sense of identity, or in terms of on-going social construction such as a means for differentiating one group from another. For these and other definitions, each contains insight, but most are not comprehensive or flexible enough to receive status of "the" definition of culture.

Most researchers, however, agree that the core of culture is formed from shared beliefs and values.

To fit the scope of the research, we proposed to adapt the United Nations (UN taxonomy of 23 culture groups to four cultural groups based on NATO School 2008 (or 2009, when available) matriculation statistics.  In other words, the countries included in our study must have enough representation at the NATO School to meet experimental design requirements. We selected the UN taxonomy over a myriad of others because the UN taxonomy was determined by experts "from various linguistic and geographical divisions that have been established at the UN Conferences on the Standardization of Geographical Names." (http://unstats.un.org/unsd/geoinfo/ungegndivisions.htm#ecsee).  Minor adjustments to the UN taxonomy were proposed, as some countries on the NATO School 2008 matriculation were listed in multiple divisions or had not yet selected a UN Division.  The culture groups proposed in our experimental design were: East Central and South-East Europe (Albania, Bosnia-Herzegovina, Bulgaria, FYROM, Greece, Hungary, Poland, Slovenia, Turkey, Ukraine, Czech Republic, Slovak Republic, Serbia, and Croatia); Asia South-West (Arabic: Algeria, Egypt, Iraq, Jordan, Morocco, Qatar, Bahrain, Tunisia Afghanistan, Azerbaijan, Pakistan, Turkmenistan); Romano-Hellenic (Belgium, France, Italy, Luxembourg, Moldova, Portugal, Romania, Spain, Switzerland); and Baltic (Latvia, Lithuania, Estonia, Belorussia).

However, leadership at NSO requested that the definition of culture groups in our study be broadly expanded.  To accommodate this request, we defined two well-researched culture groups for our study: cultures that have historically been defined as individualistic and those that research has identified as collectivistic.  Individualism and collectivism are considered as theoretical endpoints on a behavioral continuum, where the focus is on the relationship, and causes of that relationship, between the individual and the group.  For more information on behavioral influences on cultural adaptability associated with the constructs of individualism and collectivism, see Sutton et al., 2006.

### 3.4.    GlobeSmart® Commander

GlobeSmart® Commander is a CBT tool developed for use by military officers to expand their understanding of national cultural biases that impact their own and their peer behavior when working in operational-level multicultural teams.  The educational value of the training content was deemed particularly high by the NSO Command Staff.  Therefore, the intent to seek out this training material and the actual access of the training material was incorporated into the Avenues of Influence: Cross-Cultural Implications study as the dependent variables.  For more information on GlobeSmart® Commander see *Enabling Cultural Adaptability* (Sutton & Gundling, 2005).

Table 1 is a description of the culturally-based behavioral dimensions addressed in the GlobeSmart® Commander tool.  Pilot testing was done to determine which module had the most perceived value to the target population.

**Table 1: Six Dimensions of Behavior**

| Dimension | Practical Implications |
|---|---|
| 1.Independence/Interdependence: | Shapes a preference for individual initiative and action, or for a more group-oriented approach emphasizes the interests of the team as a whole |
| 2. Egalitarianism/Status: | Shapes a preference for mutual consultation in decision-making, or for greater deference to rank and hierarchy |
| 3. Risk/Restraint: | Shapes a preference for rapid action and risk-taking, or for more cautious and calculated actions based on ample information |
| 4. Direct/Indirect: | Shapes a preference for open and explicit communication, or for careful attention paid to context or to implicit meanings in a given message |
| 5. Task/Relationship: | Shapes a preference for immediate attention to getting the job done, or for establishing strong and trusting personal relationships first |
| 6. Short-Term/Long-Term: | Shapes a preference for making choices based upon a narrow time horizon, or for considering the impact that choices will have over a longer span of time |

## 4.0.     RESULTS AND DISCUSSION

### 4.1.     Limitations of Cross-Cultural Experimentation

It is critical that target populations in cross-cultural research accurately represent their nationality, to the greatest extent possible.  Yet often, the subject pool for multicultural research by US academicians and DoD researchers consists of non-American military or civilians who will live temporarily in, or move permanently to, the US.  It is reasonable to assume that these individuals have self-selected to learn about and live with American culture groups, resulting in the process of acculturation, described as "the process that occurs when the characteristics of a group are changed because of interaction with another cultural or ethnic group" (Banks, 1999, p. 61).  Cross-cultural research findings based on data collected from a subject pool of, for example, international students attending US universities or foreign liaison officers stationed at US military schools or facilities is severely limited in interpretability and, certainly, in generalizability.

Further, there is a paucity of cross-cultural research through experimental design conducted by the international research community, and nothing on the scale of this effort.  While there are several noteworthy and large-scale questionnaire studies (e.g., Globe Study, Hofstede Value Survey), questionnaire-based assessment, while useful, is inherently limited in that the cultural dimensions assessed typically evidence considerable overlap within cultures (Fiske, Kitayama, Markus, & Nisbett, 1998); and this overlap can mask otherwise evident cultural differences.

The Avenues of Influence: Cross-Cultural Implications program of research addresses these problems by focusing data collection efforts at the NATO School located in Oberammergau, Germany (http://www.natoschool.nato.int/).  The mission of the NATO School is to conduct courses, training and seminars in support of NATO's current and developing strategy and policy. Over 90 courses are offered by the school to over 9,000 officers, non-commissioned officers, and civilians annually representing over 60 NATO Alliance, Partnership for Peace, Mediterranean Dialogue, and other nations.  Of NATO School students matriculating in 2008, just 17% were from native-English speaking countries.  Of the remaining 73%, the vast majority had never been to the US (*source: NATO School, Director of the Research Department*).  In other words, the likelihood that the majority of our sample had lost their national cultural perspective would be greatly reduced.

### 4.2.     Limited Findings: GlobeSmart® Commander Modules

The pilot test findings presented here were compiled by Ms. Liliana Serban, NSO Director of Research.

Officers identified 'Task vs. Relationship' as the training most needed by military officers, in general.
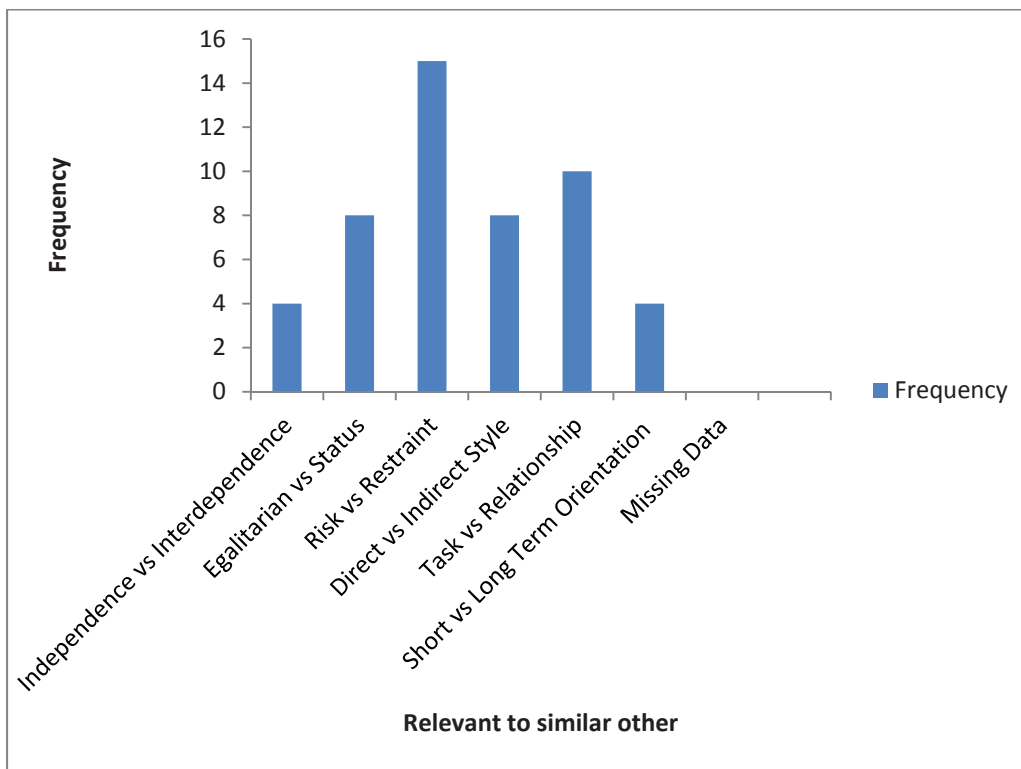


**Figure 1:  GlobeSmart®  odule Relevant to Fellow Officers**

Officers identified 'Task vs. Relationship' as the training most needed by non-commissioned officers (NCOs).
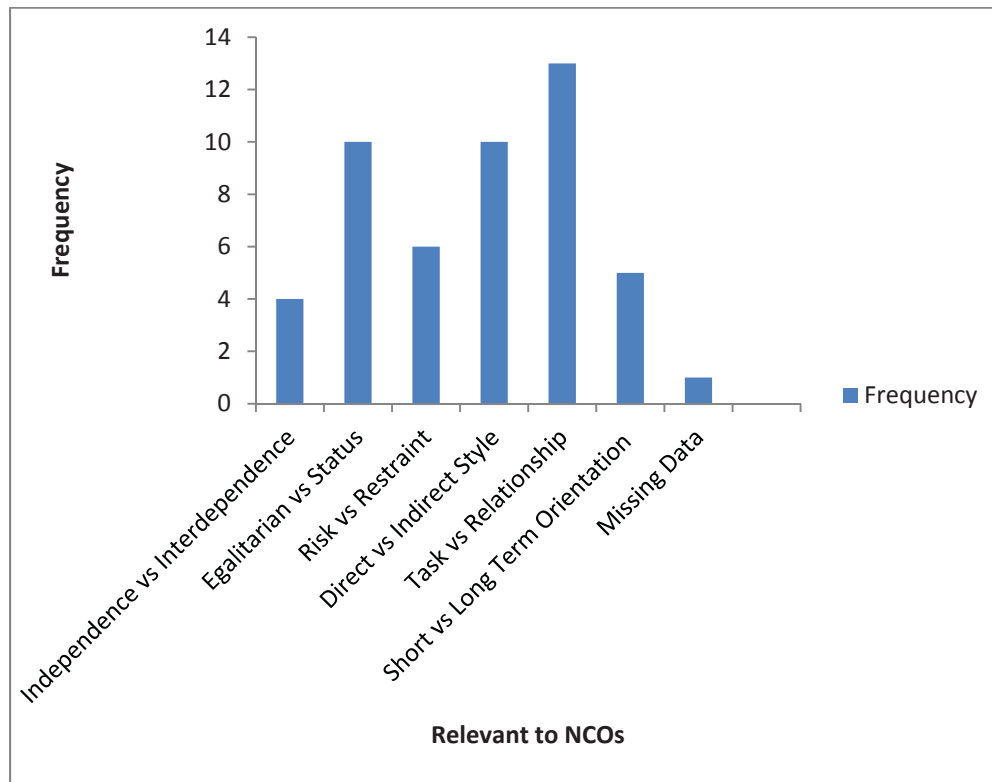


**Figure 2:  GlobeSmart® Module that Officers Think that NCOs Need**

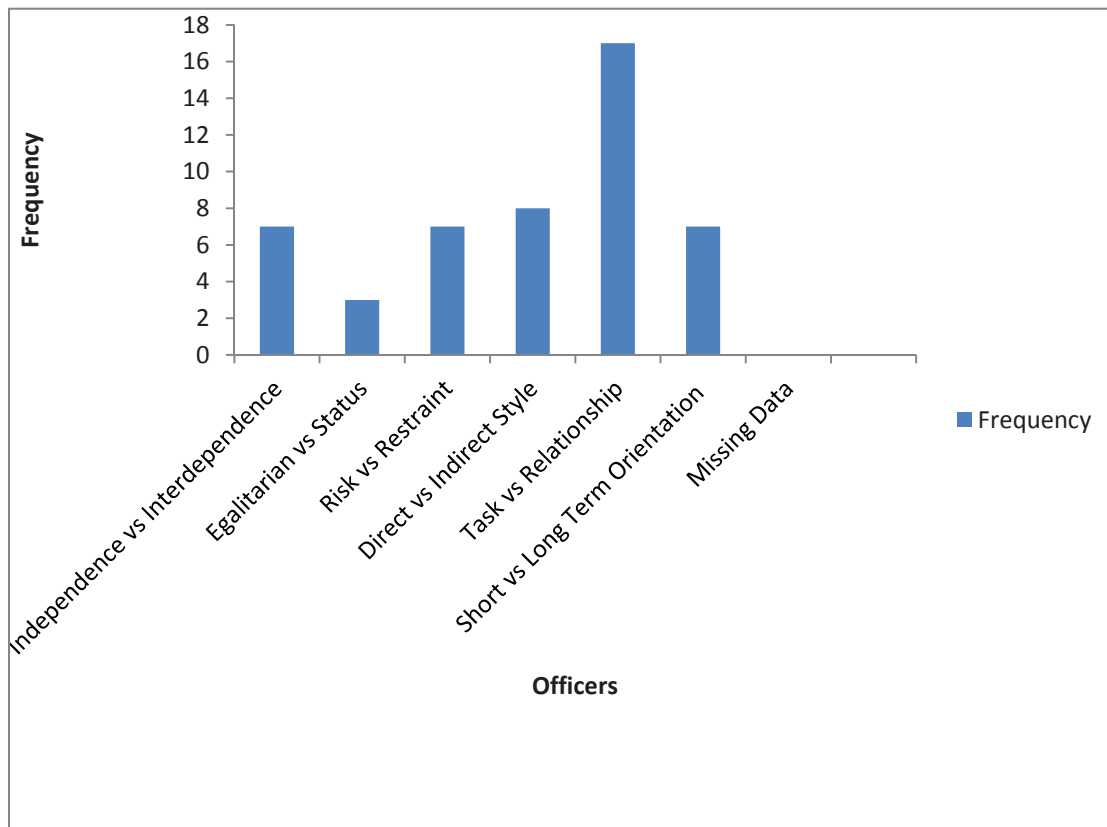Officers identified 'Task vs. Relationship' as the training most relevant to themselves.



**Figure 3: GlobeSmart® Modules More Relevant to Self Officers**

## 5.0. CONCLUSIONS

The research proposed was unique in the field of cross-cultural research in several ways. The primary methodology was an experimental design, which would increase generalizability of results to the populations and settings of theoretical interest. Experimental design minimized the variance accounted for by individual differences through the random assignment to conditions. Additionally, the scale of the study, in terms of number of participants and countries to be studied, could have produced volumes of data to be mined. Finally, this project could have been a seminal research effort that would establish a baseline from which scientists could propose novel mechanisms to explore the effects of communication modality, message affect, social influence, and culture on behavioral influences.

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# LIST OF ACRONYMS

| | |
|---|---|
| 711 HPW | 711 Human Performance Wing |
| AF | Air Force |
| AFMC | Air Force Material Command |
| AFOSR | Air Force Office of Scientific Research |
| AFRL | Air Force Research Laboratory |
| CBT | Computer-Based Training |
| CIV | Civilian |
| DoD | Department of Defense |
| FYROM | Former Yugoslavia Republic of Macedonia |
| HFM | Human Factors and Medicine Panel |
| IC | Intelligence Community |
| ISR | Intelligence, Surveillance & Reconnaissance |
| LRIR | Laboratory Research Initiative Request |
| MILDEC | Military Deception |
| MISO | Military Information Support Operations |
| NCO | Non-Commissioned Officer |
| NPS | Naval Post Graduate School |
| NSO | NATO School Oberammergau |
| RH | Human Effectiveness Directorate |
| RHX | Human Centered ISR Division |
| RHXS | Human Effectiveness Directorate, Human Centered ISR Division, Human Trust and Interaction Branch |
| ROU | Romanian |
| RSY | Research Symposium |
| RTG | Research Task Group |
| RTO | Research and Technology Organization |
| UN | United Nations |
| USAF | United States Air Force |